

Applicants : Hiroko Ueda et al.
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Attorney Docket No.: 60004-111US1
Client Ref. No.: F04-037-PCT/US/MH

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of claims

1. (Previously presented) A water-absorbent resin composition having the absorption capacity at 60 minutes toward 0.90 mass% sodium chloride aqueous solution under the pressure of 1.9 kPa not less than 20 g/g, comprising:

absorbent resin obtainable by polymerizing an unsaturated monomer having an acid group and/or a salt thereof, and

complex oxide hydrate containing zinc and silicon, or zinc and aluminum, wherein the complex oxide hydrate constitutes 0.001 to 5 parts by weight per 100 parts by weight the absorbent resin, the particle diameter of the complex oxide hydrate is in the range of 0.001 to 1000 μm , and in the complex oxide hydrate, the mass ratio of the content of zinc and the content of silicon or aluminum is in the range of 82/18 - 99/1.

2. (Original) A water-absorbent resin composition according to claim 1, wherein the complex oxide hydrate is obtained by co-precipitation method in a solution containing a water-soluble zinc compound and a water-soluble silicon compound or in a solution containing a water-soluble zinc compound and a water-soluble aluminum compound.

3. (Previously presented) A water-absorbent resin composition according to claim 1, wherein the separation ratio of the complex oxide hydrate from the water-absorbent resin in a swollen state is not more than 20%.

4. (Previously presented) A water-absorbent resin composition according to claim 1, wherein the water-absorbent resin composition is in a granular state and contains particles exceeding 150 μm and not exceeding 850 μm in diameter in a proportion of not less than 90 mass% of all the particles and particles exceeding 300 μm in diameter in a proportion of not less than 60 mass% of all the particles.

5. (Canceled).

6. (Currently amended) A water-absorbent resin composition according to claim [[1]] 4, further comprising a plant component.

7. (Currently amended) An absorbent material for sanitary product comprising: the water-absorbent resin composition of claim [[1]] 4 and hydrophilic fibers.

8. (Previously presented) An absorbent material for sanitary product comprising: water-absorbent resin obtainable by polymerizing an unsaturated monomer containing an acid group and/or a salt thereof,
hydrophilic fiber, and
complex oxide hydrate containing zinc and silicon, or zinc and aluminum, wherein the complex oxide hydrate constitutes 0.001 to 5 parts by weight per 100 parts by weight the absorbent resin, the particle diameter of the complex oxide hydrate is in the range of 0.001 to 1000 μm , and, in the complex oxide hydrate, the mass ratio of the content of zinc and the content of silicon or aluminum is in the range of 82/18 - 99/1, and the water-absorbent resin has the absorption capacity at 60 minutes toward 0.90 mass% sodium chloride aqueous solution under the pressure of 1.9 kPa not less than 20 g/g.

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9. (Previously presented) An absorbent product comprising:
the absorbent material of claim 7,
topsheet possessing permeability to liquid, and
backsheets possessing impermeability to liquid.

10. (Currently amended) A method for producing water-absorbent resin composition comprising the steps of:

obtaining a water-absorbent resin having not less than 20 g/g of absorption capacity at 60 minutes toward 0.90 mass% sodium chloride aqueous solution under the pressure of 1.9kPa through a step of polymerizing an unsaturated monomer containing an acid group, and

mixing the water-absorbent resin and ~~a complex oxide hydrate containing zinc and silicon, or zinc and aluminum; complex oxide hydrate containing zinc and silicon, or zinc and aluminum,~~

wherein the complex oxide hydrate ~~constitutes~~ constitutes 0.001 to 5 parts by weight per 100 parts by weight the absorbent resin, the particle diameter of the complex oxide hydrate is in the range of 0.001 to 1000 μm , and, in the complex oxide hydrate, the mass ratio of the content of zinc and the content of silicon or aluminum is in the range of 82/18 - 99/1.

11. (Previously presented) A water-absorbent resin composition according to claim 2, wherein the separation ratio of the complex oxide hydrate from the water-absorbent resin in a swollen state is not more than 20%.

12. (Previously presented) A water-absorbent resin composition according to claim 2, wherein the water-absorbent resin composition is in a granular state and contains particles exceeding 150 μm and not exceeding 850 μm in diameter in a proportion of not less than 90 mass% of all the particles and particles exceeding 300 μm in diameter in a proportion of not less than 60 mass% of all the particles.

13. (Previously presented) A water-absorbent resin composition according to claim 3, wherein the water-absorbent resin composition is in a granular state and contains particles exceeding 150 µm and not exceeding 850 µm in diameter in a proportion of not less than 90 mass% of all the particles and particles exceeding 300 µm in diameter in a proportion of not less than 60 mass% of all the particles.

14. (Previously presented) A water-absorbent resin composition according to claim 11, wherein the water-absorbent resin composition is in a granular state and contains particles exceeding 150 µm and not exceeding 850 µm in diameter in a proportion of not less than 90 mass% of all the particles and particles exceeding 300 µm in diameter in a proportion of not less than 60 mass% of all the particles.

15-21. (Cancelled)

22. (Previously presented) An absorbent product comprising:
the absorbent material of claim 8,
topsheet possessing permeability to liquid, and
backsheets possessing impermeability to liquid.

23. (Currently amended) A water-absorbent resin composition according to claim [[1]] 4, wherein absorbent resin is surface crosslinked with a surface crosslinking agent at a temperature in the range of 100 to 250 °C.

24. (Previously presented) A water-absorbent resin composition according to claim 23, wherein the surface crosslinking agent is a polyhydric alcohol.

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25. (Previously presented) A method for producing water-absorbent resin composition according to claim 10, further comprising surface crosslinking the water-absorbent resin with a surface crosslinking agent at a temperature in the range of 100 to 250 °C.

26. (Previously presented) A method for producing water-absorbent resin composition according to claim 25, wherein the surface crosslinking agent is a polyhydric alcohol.

27-28. (Canceled)

29. (Currently amended) The water-absorbent resin composition of claim [[1]] 4, wherein the complex oxide hydrate constitutes 0.05-4 parts by weight per 100 parts by weight the absorbent resin.

30. (Currently amended) The water-absorbent resin composition of claim [[1]] 4, wherein the complex oxide hydrate constitutes 0.1-3 parts by weight per 100 parts by weight the absorbent resin.

31. (Currently amended) The water-absorbent resin composition of claim [[1]] 4, wherein the particle diameter of the complex oxide hydrate is 0.01-600 µm.

32. (Currently amended) The water-absorbent resin composition of claim [[1]] 31, wherein the particle diameter of the complex oxide hydrate is 0.01-500 µm.

33. (Currently amended) The water-absorbent resin composition of claim [[1]] 32, wherein the particle diameter of the complex oxide hydrate is 0.01-300 µm.

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34. (Currently amended) The water-absorbent resin composition of claim 1, wherein the complex oxide hydrate constitutes about 0.1 or 0.5 parts by weight per 100 parts by weight the absorbent resin, ~~and the particle diameter of the complex oxide hydrate is about 0.36 μm.~~

35. (Previously presented) The water-absorbent resin composition of claim 34, wherein the mass ratio of the content of zinc and the content of silicon or aluminum in the complex oxide hydrate is about 82/18 or about 90/10.

36. (Currently amended) The absorbent material for sanitary product of claim 8, wherein the complex oxide hydrate constitutes about 0.1 or 0.5 parts by weight per 100 parts by weight the absorbent resin, ~~and the particle diameter of the complex oxide hydrate is about 0.36 μm.~~

37. (Previously presented) The absorbent material for sanitary product of claim 36, wherein the mass ratio of the content of zinc and the content of silicon or aluminum in the complex oxide hydrate is about 82/18 or about 90/10.

38. (Currently amended) The method of claim 10, wherein the complex oxide hydrate ~~constitutes~~ constitutes about 0.1 or 0.5 parts by weight per 100 parts by weight the absorbent resin, ~~and the particle diameter of the complex oxide hydrate is about 0.36 μm.~~

39. (Previously presented) The method of claim 38, wherein the mass ratio of the content of zinc and the content of silicon or aluminum in the complex oxide hydrate is about 82/18 or about 90/10.